## CLAIMS:

1. A fluorine containing oligopeptide of formula:

Y-B-A-X

or Y-B-A'-X'

(FORMULA I)

(FORMULA II)

wherein:

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A is an amino acid residue of formula:

10 where m is 0 or 1.

A' is an amino acid residue of formula

$$\begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \end{array}$$

where m is 0, or 1 and  $R_1$  is a fluorine-substituted hydrocarbyl side chain containing from 1 to 15 carbon atoms;

B is a naturally or non-naturally occurring amino acid residue of formula:

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$$\left\langle \begin{array}{c} (H) & O \\ N & R_2 \end{array} \right\rangle$$

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wherein  $R_2$  contains from 1 to 20 carbon atoms is a non-polar, or polar but uncharged sidechain or is a side chain containing an acidic functionality; X is selected from the following:

5  $-CO_2R_8$ ; -H;  $-OR_8$ ;  $-CF_3$ ;  $-CONR_9R_{10}$ ;  $-CF_2CONR_9R_{10}$ ;  $-NH.SO_2R_{25}$  or a heterocyclic group of formula:

wherein U is sulphur, oxygen or  $NR_{11}$ ;  $R_8$ ,  $R_9$ ,  $R_{10}$ ,  $R_{11}$  and  $R_{25}$  are, independently, hydrogen or a lower alkyl, lower alkenyl, aryl, or aralkyl group, and S and T are each independently either H or  $R_{12}$ , where  $R_{12}$  is a lower alkyl, lower alkenyl, aryl or aralkyl group, or can together form a ring;

X' is OH or  $-NHSO_2R_{25}$ , where  $R_{25}$  is as defined above; and Y is selected from (i) and (ii) below:

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wherein C is a natural or non-natural amino acid residue having a non-polar, polar but uncharged, or acidic side chain containing from 1 to 20 carbon atoms;

D may be absent, but where present is a natural or non-natural amino acid having a hydrophobic side chain containing 1 to 20 carbon atoms;

E may be absent, but where present is a natural or non-natural amino acid having an acidic side chain containing from 1 to 20 carbon atoms, or is a dicarboxylic acid containing up to 10 carbon atoms; F may be absent, but where present is a natural or non-natural amino acid having an acidic side chain

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containing from 1 to 20 carbon atoms, or is a dicarboxylic acid containing up to 10 carbon atoms; and

Z may be absent, -H, or a group of formula  $R_7CO-$ , where  $R_7$  is a group containing from 1 to 20 carbon atoms which is chosen such that the group  $R_7CO-$  together with the nitrogen atom to which it is attached forms an amide, urethane or urea linkage;

where  $R_{13}$  is an aliphatic or aromatic group containing from 1 to 25, carbon atoms and 0-5 oxygen atoms, 0-3 nitrogen atoms, 0 to 2 sulphur atoms and up to 9 other heteroatoms which may be the same or different;

or a pharmaceutically acceptable salt or ester thereof.

2. An oligopeptide of Formula II or a salt or ester thereof according to claim 1 wherein  $R_1$  is selected from:



3. An oligopeptide of Formula I or a salt or ester thereof according to claim 1 wherein X is selected from:  $-\text{CO}_2\text{H}$ ,  $-\text{CONHCH}_2\text{Ph}$ , -H, -OH,  $-\text{NHSO}_2\text{R}_{25}$  (where  $\text{R}_{25}$  is as defined in claim 1),

$$-\frac{N}{s}$$

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- 4. An oligopeptide of Formula I or a salt or ester thereof according to claim 3 wherein X is selected from: -H; -OH; -COOH, and  $-NHSO_2R_{25}$ .
- 5. An oligopeptide of Formula I or II or a salt or ester thereof according to any one of the preceding claims wherein B is selected from: glutamic acid and aspartic acid, 2-aminobutyric acid, 4,4-difluoro-2-aminobutyric acid, alanine, isoleucine, valine, leucine, cysteine, phenylalanine, naphthylalanine, β-cyclohexylalanine, and proline.
  - 6. An oligopeptide, salt or ester according to claim 5 wherein B is selected from  $\beta$ -cyclohexylalanine, leucine, glutamic acid and 4,4-difluoro-2-aminobutyric acid.
  - 7. An oligopeptide, salt or ester according to any one of the preceding claims, wherein Y is a group of formula:

- and C is selected from: alanine, isoleucine, leucine, phenylalanine, valine, norleucine, norvaline, glutamic acid, glutamine, aspartic acid,  $\alpha$ -t-butyl glycine,  $\alpha$ -cinnamylglycine, homoleucine, 3,5 dichlorophenylalanine 2-thienylalanine, 3-bromophenylalanine and  $\alpha$ -cyclopentyl glycine.
  - 8. An oligopeptide, salt or ester according to claim 7 wherein C is selected from: isoleucine, glutamic acid,  $\alpha$ -cyclopentylglycine, t-butyl glycine and valine.
  - 9. An oligopeptide, salt or ester according to claim 7 or claim 8 wherein D is selected from: methionine, isoleucine, leucine, norleucine, valine, methyl valine,

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phenylglycine or diphenylalanine.

- 10. An oligopeptide, salt or ester according to claim 9 wherein D is leucine or diphenylalanine.
- 11. An oligopeptide, salt or ester according to claim 9 or claim 10 wherein E is selected from glutamic acid, aspartic acid, succinic acid and glutaric acid.
- 10 12. An oligopeptide, salt or ester according to claim 11 wherein F is selected from glutamic acid, aspartic acid, succinic acid and glutaric acid.
  - 13. A tripeptide of formula:
- 15 Z-C-B-A-X" in which A, B, C and Z are as defined in claim 1 and X" is a carboxylic acid group (-CO $_2$ H), amide group (-CONR $_9$ R $_{10}$ ) or hydrogen; or a pharmaceutically acceptable salt or ester thereof.
- 15. A tripeptide, salt or ester according to claim 13 or  $\frac{14}{}$  wherein the amino acid B is selected from: cyclohexylalanine, leucine,  $\alpha$ -aminobutyric acid, 4,4-difluoro-2-aminobutyric acid and phenyl alanine.
- 16. A tripeptide, salt or ester according to any one of claims 13 to 15-wherein the amino acid C is selected from: alanine, isoleucine, leucine, phenylalanine, valine, norleucine, norvaline, glutamic acid, glutamine, aspartic acid, α-t-butyl glycine, styrylalanine,

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homoleucine, 3,5 dichlorophenylalanine, 2-thienylalanine, 3-bromophenylalanine and  $\alpha$ -cyclopentyl glycine.

Claim A tripeptide according to any one of claims 13-to 16 wherein the combination of amino acids C-B is selected from:

isoleucine - cyclohexylalanine

isoleucine - leucine

isoleucine - α-aminobutyric acid

10 isoleucine - phenylalanine

leucine - leucine

phenylalanine - leucine

valine - leucine

norleucine - leucine

15 norvaline - leucine

glutamic acid - leucine

glutamine - leucine

n-butylaspartic acid - leucine

aspartic acid - leucine

t-butyl glycine - leucine 20

glutamic acid - 4,4 difluoro-2-aminobutyric acid

α-cinnamyl glycine - leucine

homoleucine - leucine

2-thienylalanine - leucine

3-bromophenylalanine - leucine

 $\alpha$ -cyclopentylglycine - leucine.

- A hexapeptide, salt or ester according to claim 1 having the formula:
- 30 Z-F-E-D-C-B-A-X Z-F-E-D-C-B-A'-X' or where A-F, X and Z, A' and X' are as defined in claim 1.
  - A hexapeptide, salt or ester according to claim 18 wherein the group



is selected from:

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and

$$z$$
 $H$ 
 $CO_2H$ 
 $CO_2H$ 

20. A fluorine containing dipeptide according to Formula I of claim 1 wherein:

X is -COOH;

B is leucine; and

Y is a group of formula  $R_{13}\text{CO-}$  where  $R_{13}$  is as defined in claim 1;

or a pharmaceutically acceptable salt or ester thereof.

21. A dipeptide, salt, or ester according to claim 20

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wherein  $R_{13}$  is a group of general formula

HO 
$$\stackrel{O}{=}$$
  $\stackrel{R_a}{=}$   $\stackrel{R_a}{=}$   $\stackrel{R_a}{=}$   $\stackrel{Q}{=}$ 

wherein each Ra is independently selected from hydrogen, lower alkyl, lower alkenyl, lower alkoxy, optionally substituted aryl or aralkyl groups or two Ra taken together result in the formation of a three to seven membered aliphatic or aromatic ring which optionally contains at least one heteroatom.

- 10 A dipeptide, salt or ester according to claim 21 wherein at least one group  $-C(R_a)_2$  is replaced by -O-.
  - A dipeptide, salt or ester according to claim 21 wherein  $R_{13}$  is a group of formula:

HO 
$$C$$
  $CH_2)_{0,1}$   $CH_2)_{0,1}$ 

A dipeptide salt or ester according to claim 20 wherein  $R_{13}$  is a group of formula:

where  $R_{14}$  is a cycloalkyl or optionally substituted aryl group.

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25. A dipeptide salt or ester according to claim 20 wherein  $R_{13}$  is a group selected from:

where  $R_{15}$  is hydrogen, an optionally branched, optionally interrupted and optionally substituted lower alkyl or lower alkenyl group or an optionally substituted aralkyl group,  $R_{16}$  is hydrogen or an optionally substituted and optionally interrupted lower alkoxy or aryloxy- group;

where  $R_{15}$  is as defined above; and

where each of  $R_{17}$ ,  $R_{18}$  and  $R_{19}$ , independently, is selected from hydrogen, optionally substituted lower alkyl, lower alkenyl and lower alkoxy, optionally substituted aryl, aralkyl, aryloxy or aralkoxy, a carboxylic acid group optionally as its lower alkyl ester, a halogen, cyano, or

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CF<sub>3</sub> group.

- 26. A fluorine containing digopeptide, salt or ester according to any one of the preceding claims for therapeutic use.
- 27. The use of a fluorine containing oligopeptide, salt or ester of any one of the preceding claims for the manufacture of a medicament for use in inhibiting the HCV NS3 protease, and/or for use in treating or preventing hepatitis C or a related condition.
- 28. A pharmaceutical composition comprising a fluorine containing oligopeptide, salt or ester according to any one of claims 1 to 25 and a pharmaceutically acceptable excipient, diluent or carrier.
  - 29. A method of inhibiting HCV NS3 protease activity, and/or of treating or preventing hepatitis C or a related condition, the method comprising administering to a human or animal subject, a therapeutically or prophylactically effective amount of a composition according to claim 28, or of a fluorine containing oligopeptide salt-or ester of any-one of claims 1 to 25.
  - 30. A method for the production of a compound of any one of claims-1-to-25-comprising reaction of a compound of formula Y-NH-CHR<sub>2</sub>-CO<sub>2</sub>H where R<sub>2</sub> is as defined in claim 1, optionally in a protected form, with an amine coreactant selected from:



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(a) 
$$R_1$$
  $OR'$ 

## FORMULA K

where R' is a protecting group for a carboxylic acid group and  $R_1$  is as defined in claim 1 and a (-CH<sub>2</sub>-) group is optionally present at the position marked by brackets;

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(b) 
$$R_1$$
  $R^v$   $OH$ 

## FORMULA L

where  $R_1$  is as defined in claim 1, and  $R^{\nu}$  is a group corresponding to, or convertible to X or X' of claim 1, and a (-CH<sub>2</sub>-) group is optionally present at the position marked by brackets;

15 FORMULA M

wherein  $R_1$  is as defined in claim 1 and R'' is a lower alkyl group and a (-CH<sub>2</sub>-) group is optionally present at the position marked by brackets; and

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## FORMULA N

wherein  $R_1$  is as defined in claim 1 and a (-CH<sub>2</sub>-) group is optionally present at the position marked by brackets.